



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

GENERAL LIBRARY

OF

University of Michigan

Presented by

Indiana State Library

Jan. 22

1900

LC
1081
1493



From Indiana State Library
Box Jan 22, 1900
576

THE NEED FOR HIGHER EDUCATION
IN AGRICULTURE AND
THE INDUSTRIAL ARTS.

106559

AN ADDRESS

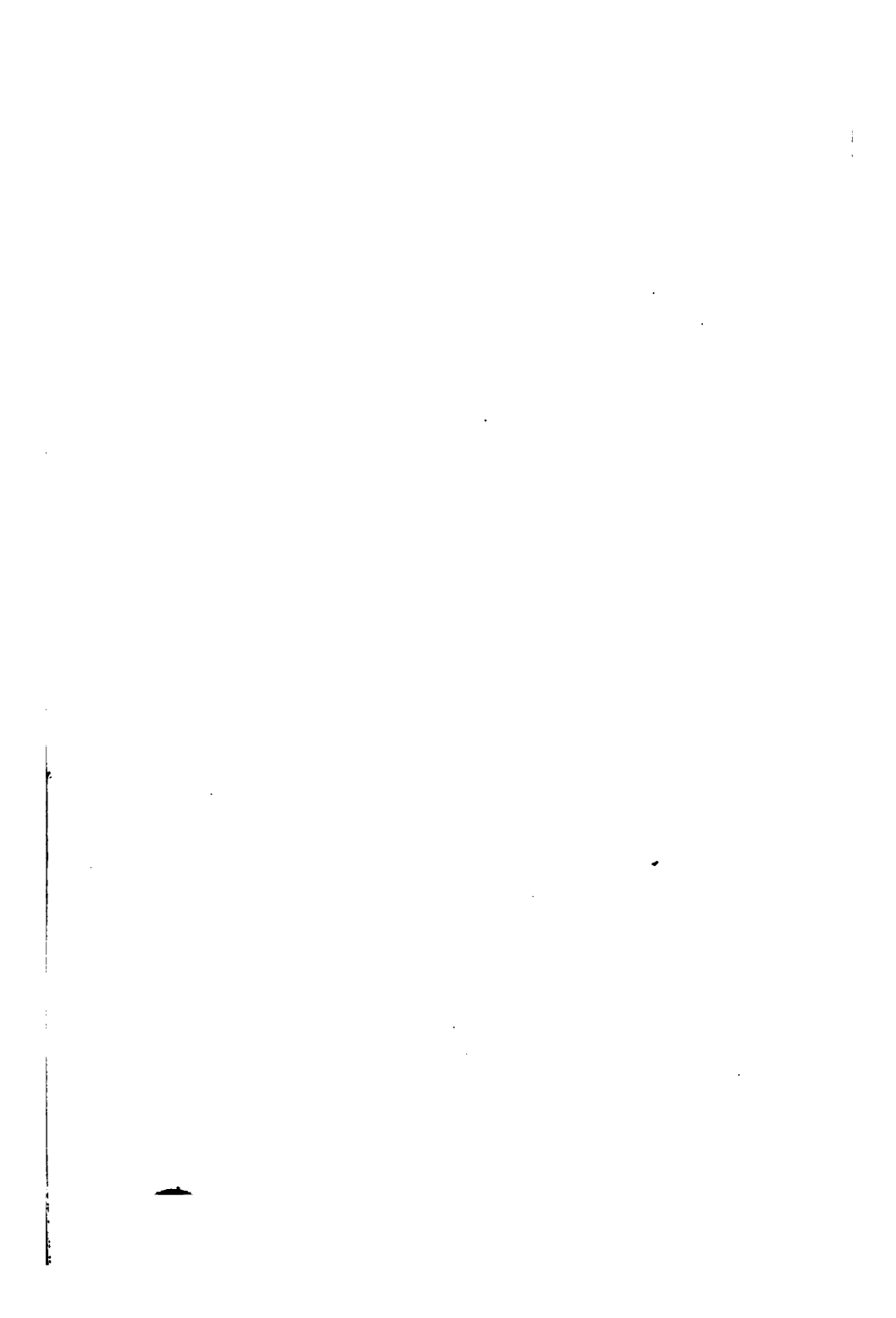
DELIVERED BY

twill
JAMES A. MOUNT, GOVERNOR OF INDIANA,
BEFORE THE STUDENTS AND FACULTY OF PURDUE UNIVERSITY, ON
MORRILL DAY, APRIL 14, 1899.

PUBLISHED BY THE UNIVERSITY,
LAFAYETTE, IND.
1899.

Rec'd. S. 23-29 7/17

THE NEED FOR HIGHER EDUCATION
IN AGRICULTURE AND
THE INDUSTRIAL ARTS.



THE NEED FOR HIGHER EDUCATION IN AGRICULTURE AND THE INDUSTRIAL ARTS.


TO-DAY we honor the memory of a statesman whose distinguished legislative career is the longest in the history of our country. Senator Justin S. Morrill, a farmer from Vermont, served in the Congress of the United States from 1855 until his death, December 27, 1898. He served twelve years in the House of Representatives and thirty-two years in the Senate.

HIS GREATEST PUBLIC SERVICES.

Senator Morrill was a conspicuous figure in moulding legislation during the trying period of the Civil War. He was prominent in national councils during the exciting period preceding that war. He was the author of bills of such moment

as to inseparably link his name with the greatest laws enacted during the country's greatest crisis. None of his great laws will grow more in public favor with the lapse of time, and reflect wiser statesmanship, than the acts of July 2, 1862, and August 30, 1890, granting public lands for the founding of agricultural colleges, wherein the producers of the nation's wealth might be given that industrial training which would better fit them for their responsible and important work. These acts recognized the fact that from the farm, the factory, the mills and the shops must come, in large measure, the nation's supplies, commerce and wealth. His wise laws emphasized farming as the main source of national greatness. He viewed this industry as a science that requires special training to fit the husbandman for dealing with the hidden forces in nature. He likewise foresaw the need of trained mechanics, engineers, manufacturers, architects, electricians and machinists, and by the wise provision of his laws created the means to the end.

President Washington, whose practical experience as a farmer on his Virginia plantations, as



well as his masterful statesmanship, enabled him to foresee the need of agricultural education, as is shown by his annual message, December 7, 1796, recommended in that document the establishment of a national university, in which, among other things, the science of agriculture should be taught.


“It will not be doubted,” said he, “that, with reference to either individual or national affairs, agriculture is of primary importance. In proportion as nations advance in population and other circumstances of maturity, this truth becomes more apparent, and renders the cultivation of the soil more and more an object of public patronage. I have heretofore proposed to the consideration of Congress the expediency of establishing a national university and a military academy.”

The military academy was wisely established, but no provisions were made, until the acts introduced by Senator Morrill, for giving instruction in the sciences and arts that must furnish the sinews of war, create our commerce and render us prosperous and mighty in peace.

Thomas Jefferson, the sage of Monticello, whose energies, when not given to state and national affairs, were devoted to his large farming interests, also had gained practical experience that enabled him to foresee the need and to advocate the giving of the science of agriculture a place in university curriculum. But to Justin S. Morrill belongs the immortal honor of crystallizing these wise suggestions into laws.

THE ACT OF JULY 2, 1862.

This act provided, through the sale of public lands, a fund "to the endowment, support and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes."



HATCH ACT OF 1887.

The Hatch act was the outgrowth or fruitage of the act of 1862. This law annually appropriated \$15,000 for the establishment and maintenance of an experimental station in connection with each agricultural college established under the Morrill act. I can not take the time to elaborate upon the practical wisdom of this law. Suffice it to say, it provides for the practical application of the science taught, the theories promulgated in agricultural education, and is of the greatest importance. The results of the practical tests and experimentations given through the bulletins of the station, and sent to all farmers desiring the same, are very valuable.

ACT OF AUGUST 30, 1890.

On the 30th day of August, 1890, Senator Morrill secured the passage of his second law relating to agricultural colleges. This law appropriated money derived from the sale of public lands to each State and Territory; for the first year \$15,000, with an increase of \$1,000 each year there-

after for ten years, when the annual appropriation should be \$25,000, "to be applied to instruction in agriculture, the mechanic arts, the English language and the various branches of mathematical, physical, natural, and economic science, with special reference to their application in the industries of life and to the facilities for such instruction."

PURPOSE OF THIS LAW.

The manifest purpose of these laws was to supply a need. It was to furnish an industrial training. It was to enable farmers to apply science to farming, the principles of economics to their business transactions; it was to train architects, mechanics, engineers, electricians—in short, to fit students for the practical pursuits of industrial business. We have schools enough for the professions. In fact, the trend of our educational system is away from the farm and the industries upon which the nation is so dependent.

PURDUE'S IMPORTANT MISSION.

To this great end Purdue was founded, and to this end the energies of the university should be mainly directed. Purdue is not doing for agriculture what the emergencies of the times require. It is not filling the full measure of its intended mission. I speak advisedly when I say this university has a work to perform more vital to the future development and greatness of the State than any other educational institution situated within our borders. The great mission of this institution is to qualify the wealth producers of the State for the intelligent and successful pursuit of their vocations. I must commend the wisdom and energy of Dr. Smart, president of this university, and his efforts to make this institution more helpful to the farmers. He has offered special inducements to attend the special and regular course in agriculture. He has caused to be prepared leaflets on "Nature Study," and sent them to the schools of the State. Prof. W. C. Latta, of the faculty, has conducted with marked ability the farm institute work of the State. A bill was pre-

NOTES

pared by President Smart, and given to the Legislature, looking to the broadening of Purdue's usefulness to the farmers, but the bill was defeated; as long as prejudice, instead of progress, treadmill methods, instead of advanced ideas prevail, so long will farming be at low tide and agricultural colleges not appreciated.

STATISTICS RELATING TO LAND GRANT COLLEGES.

As compiled June 30, 1897, being from the latest published report, educational institutions receiving the benefits of the acts of Congress of July 2, 1862, and August 30, 1890, are now in operation in all the States and Territories, except Alaska. The total number of these institutions is 64, of which 61 maintain courses of instruction in agriculture.

The aggregate value of the permanent funds and land grant colleges and universities in 1897, was estimated to be as follows:

Land grant fund of 1862	\$10,243,132	82
Other land grant funds.....	1,319,133	41
Other permanent funds.....	8,567,619	27
Land grant of 1862, still unsold	2,399,383	70
Farms and grounds owned by institutions..	5,564,488	91
Buildings	13,994,205	64

3701

Apparatus.....	\$1,533,282	38
Machinery	1,048,503	31
Libraries	1,425,004	88
Miscellaneous equipment	1,935,290	51

Total\$48,030,044 83

The income of these institutions in 1897, exclusive of the funds received from the United States for agricultural stations (\$720,000), was as follows :

Interest on land grant of 1862.....	\$609,992	64
Interest on other funds	574,120	08
U. S. appropriation under act of 1890	1,009,097	07
State appropriation (annual or regular)	1,447,170	94
State appropriation (occasional).....	318,901	07
Tuition fees	480,375	45
Incidental fees.....	50,555	98
Miscellaneous	708,971	47

Total \$5,199,184 70

The value of additions to the permanent endowment and equipment of these institutions in 1897 is estimated as follows :

Permanent endowment.....	\$237,113	59
Buildings.....	763,395	35
Library	90,804	95
Apparatus.....	129,545	28
Machinery.....	70,725	00
Miscellaneous	79,587	54

Total\$1,371,171 71

The number of persons in the faculties of the colleges of agriculture and mechanic arts were as follows :

For preparatory classes	240
For collegiate and special classes.....	<u>1,372</u>
Total	1,612
In other departments faculties aggregated.....	<u>791</u>
Total in faculties of land grant colleges	2,403

The students in these colleges in 1897 were as follows :

(a.) By classes :

Preparatory.....	5,426
Freshmen	6,102
Sophomores	3,815
Juniors.....	2,803
Seniors.....	2,219
Special	6,686
Post-graduate.....	<u>801</u>
Total.....	27,852

(b.) By courses :

Agriculture	3,930
Mechanical engineering.....	2,441
Civil engineering	1,375
Electrical engineering.....	1,166
Mining engineering.....	575
Architecture	393

Household economy	1,051
Veterinary science.....	354
Military tactics.....	8,295
Total.....	19,580
Graduates in 1897.....	1,687
Since organization of institutions	27,737
Number of volumes in libraries.....	1,109,614

The total number of acres of land granted to the States under the act of 1862 was 8,978,960. Unsold in 1897, 1,066,519.

OUR STATE CONSTITUTION STIPULATES THAT AGRICULTURE SHALL BE ENCOURAGED.

Before the passage of the Morrill act of 1862, comparatively nothing had been done by the States looking to suitable training for this great industry. Notwithstanding this neglect, our State Constitution, Article VIII, Section 1, stipulated that, among other things to be taught,

“It shall be the duty of the General Assembly to encourage, by all suitable means, moral, intellectual, scientific and agricultural improvement.”

Purdue's able president, Dr. Smart, has long seen the need of applying science to farming. Some years ago he pointed out the alarming

rapidity with which soil fertility was being exhausted in our State, but neither the press nor the farmers comprehended his timely warning. The State Chemist, Professor Huston, of Purdue, has given to the farmers, from time to time, valuable information as to the amount and value of elements required by the different farm crops.

AGRICULTURAL DEPRESSION IN IRELAND—THE REMEDY.

The deplorable condition into which agriculture had declined in Ireland led to the appointment of a committee, composed of members of Parliament and the most noted men of that depressed country, to inquire into the cause of the agricultural and industrial depression. The Hon. Horace Plunkett, M. P., was made chairman. This committee, known as the "recess committee," made an exhaustive investigation of agricultural conditions in all the European countries, and in August, 1896, submitted their report to the Right Honorable Gerald W. Balfour, M. P., chief secretary to the Lord Lieutenant of Ireland. The report says:

"Hitherto but little interest has been aroused in Ireland in those economic problems for which this report suggests some solution."

The report reviews the progress made in the different agricultural countries of Europe, and says :

"The most marked manifestation of sound economic wisdom has been agricultural education, extending from the state agricultural and experiment stations down to the common schools."

I think it wise for our country to note the growing interest manifested in all European countries in agricultural education. Competition with American farmers, who had unlimited acres of rich soil, forced the farmers of the Old World to adopt economic methods and the application of science, which, sooner or later, we ourselves will be compelled to adopt. I shall at this time, as I have on other occasions, quote largely from this report of the "recess committee," which is a summary of the most exhaustive investigation that has been made into the conditions and needs of agriculture. This report was published in Dublin, Belfast and London. At pages 53, 54 and 55 we find that,

"Marvelous results follow agricultural instruction in the colleges and in the common schools.

"The most positive action of the State in assisting agriculture is taken in connection with education. Everywhere it is accepted as an axiom that technical knowledge and general enlightenment of the agricultural class are the most valuable of all levers of progress. The great sums spent by the various countries in promoting technical education as applied to agriculture, as well as to other industries, prove this. M. Marey-Oyens, the head of the Dutch Board of Commerce and Industry, the president of the Agricultural Council, says: 'Every guilder spent in the promotion of agricultural teaching brings back profits an hundredfold.' 'Every franc spent in agricultural teaching brings a brilliant return,' says the Belgian Minister of Agriculture in his message to Parliament last year. M. Tisserand attributes the great progress made by French Agriculture since 1870, in a large measure, 'to our schools, our professors, our experiment stations, and the illustrious men of science whom the administration has induced to devote themselves to the study of agricultural questions.' Mr. H. M. Jenkins, in his report to the Royal Commission on Technical Instruction, says: 'The results of agricultural education in Denmark have been something extraordinary.' Danish butter is now the best in the world; in 1860 it was described by the British Vice-Consul at Copenhagen as 'exceedingly bad;' the progress since then is directly traceable to agricultural education."

Page 43:

"At the end of the last century Denmark was one of the poorest countries of Europe. To-day it is one of the richest, according to population, and that progress in

wealth is almost entirely represented by its progress in agriculture."

Page 162:

"Besides these and other indirect ways of promoting agricultural education, technical instruction in agriculture is given in state primary schools, which are gratuitous and compulsory. The high schools, which now receive government grant, include technical training in their curriculum, and there are special agricultural schools in which agriculture is the chief subject, receiving subsidy from the state."

Page 191:

"In addition to all these forms of instruction, a course of agricultural training is now obligatory in every primary and upper primary school in the rural district of France. These schools have an enrollment of 5,500,000 pupils."

After reviewing the marvelous progress made in agriculture, the increase of production since the inauguration of compulsory agricultural instruction, Monsieur Tisserand adds:

"Our schools are far better attended than they used to be; everywhere people are working with zeal, and the scientific spirit has invaded the farm. Young men of intelligence are becoming more attracted to rural life, and the children brought up in our country districts, when they receive an appropriate agricultural education, will be less tempted to go into the towns to increase the already too great number of those chronic unemployed who constitute to-day a perpetual danger to society."

Holland also encourages agriculture and provides education along this line. On page 253 the report says of Belgium :

“The teaching of agriculture and horticulture has received great impulse since 1890, the government and the local authorities combining their efforts in this direction as the powerful help to agriculture.”

On page 254 we find this :

“It is gratifying to see what strides are made in every kind of agricultural instruction. Schools of agriculture and horticulture, dairy, rural housekeeping, have been multiplied, either supported or subsidized by the state.
* * * All these means have powerfully tended to raise the intellectual standard of our people in the business of farming, and given such satisfactory results that the public authorities are determined to leave no stone unturned in this direction.”

Likewise great interest is manifested and large results follow agricultural instruction, both in Bavaria and in Holland.

IRELAND'S NEED.

The committee, in applying their investigations to conditions in Ireland, on page 88, make this appeal for industrial education :

“For the middle and upper classes of Ireland, speaking broadly, there are only three professions. A man has to make his son either a lawyer, doctor or clergyman. The

idea of treating as professions the callings of commerce, agriculture and manufactures, and of providing them with a special professional education, is not known here. Yet these three great professions stand at the head of the material interests of every country. They represent its productive forces, while the others, whatever their value otherwise, do not. They call for as wide and complete a variety of knowledge as any other profession; every branch of science is contributory to agriculture and manufactures. Our system of higher education in Ireland ought to aim in the future at raising these professions to their true place, and show our middle classes that there are other professional careers for their sons, besides those to which they have hitherto confined their ambition."

The foregoing emphasizes the economic wisdom of higher training for the profession of agriculture and manufactures, and shows their application to all countries.

CONDITIONS THAT CONFRONT THE AMERICAN FARMER.

Until the Morrill acts, no provision was made in our educational system for suitable training for the industrial professions, while it must be conceded that upon the labor of these the nation must depend. What has been the fruitage of this neglect as relates to farming? Much land has been worn out, many farms abandoned in the

East, much land neglected in the South, and all over the United States the unthrifty methods in vogue are rapidly depleting the fertility of the soil. Our farmers have little or no knowledge of the elements of plant food required by growing crops, and much less of the commercial value of those elements. When land was impoverished by excessive cropping, new land was ready for the repetition of unscientific methods. With amazing rapidity have our farmers pushed westward, until the land available for agricultural purposes is well nigh occupied.

LIMIT OF FARM LANDS.

Mr. John Hyde, statistician of the department of agriculture, discusses at length and in detail in the *North American Review*, the amount of land that can, by the stimulus of high prices, be made available for agriculture. He estimates the total amount at 108,000,000 acres. Mr. Hyde estimates that in 1931 we will have a population of 130,000,000 of people, which, at the present rate per capita, will require for domestic consumption 700,000,000 bushels of wheat, an oats

crop of 1,250,000,000, a corn crop of 3,450,000,000 bushels, and a hay crop of 100,000,000 tons. On the basis of present consumption and production, to supply our home demand will require, he says, 13,500,000 more acres for wheat, 66,000,000 acres for corn, 23,700,000 for oats, and 40,500,000 acres for hay; a total of 143,700,000, or 35,700,000 acres more than the available land for agriculture in the United States.

President Elliott, of Harvard, said the population of the United States doubled in twenty years from 1860, and this during the period of the war. From this ratio of increase, he thought it possible in the next 100 years to reach a population of 400,000,000 of people. If at the present yield per acre and the consumption per capita, Mr. Hyde finds that with 131,000,000 of people we will be short of land to the extent of 35,700,000 acres necessary to supply home consumption, how will we feed and clothe 200,000,000, or, in the lapse of time, 400,000,000 of people? Without speculating on the per cent. of increase of population, of one thing we are assured: our rapidly increasing population, with the limited area

of unoccupied lands, emphasize the wisdom and need of applying better scientific methods to farming. Extensive operations must give place to intensive methods. We must cease the prodigal waste of plant food in the soil. We have recklessly destroyed our forests; we have failed to use wisely the forces with which nature has so abundantly favored this land. It is time to call a halt in this reckless prodigality, and to inaugurate methods of sound economics. It is possible, under intensive scientific farming, for the United States to feed and clothe ten times the present population. It is the mission of this University to inaugurate the system that will place Indiana in the lead of this much needed progress.

NEW YORK CITY'S CONGESTED CONDITION.

In 1895 New York city appointed a committee of her most distinguished citizens to inquire into the congested condition of that city, to ascertain, if possible, the reason why so many were crowding into the great metropolis, causing idleness and want. They reported the foundation cause to be discontent with farming, causing migration of

country people to the city. In their printed report they say:

"One of the underlying causes for the discontent that exists among farmers is the fact that, as a class, they have no special training or education for their business. The methods that gave success in the past fail to do so at present. The soil has been depleted over a wide range of territory."

Continuing, the report says:

"There is a solution for this most distressing experience through which we are passing, in this most remarkable transition period; there is no doubt that we can and shall enter upon a higher development of agriculture in our country than we have ever known. There is no doubt but there will be a building-up of millions of contented, prosperous homes upon soil that is to-day watered with tears. There are many evidences to believe that the blessed way of deliverance is to be through the pleasant pathway of greater knowledge, which has always brought its blessings to everything to which it is applied. There is a general recognition throughout the civilized countries that agriculture, the basic foundation upon which the life of the people must always depend, is greatly impaired. With this clear recognition to-day, the light and power of science are being turned on to help in its up-building, the attention of public educators is being aroused, and our institutions of learning, with their splendid equipments, are turning their attention more and more in the direction of building up an educated, trained and skillful class of men and women in agricultural knowledge, as they have heretofore done for other interests."

MIGRATION FROM COUNTRY TO CITY.

From 1790 to 1880 the population of the country increased twelve times, while that of cities of over 8,000 inhabitants increased 86 times. In 1790 one-thirtieth of the population lived in cities; in 1880 one-fourth—at the present time one-third. At this ratio of increase, early in the twentieth century more than one-half of our population will be crowded into cities. The time is rapidly approaching when the idleness, destitution and want in our large cities will not only cause untold misery, but will be a menace to our Government. In 1888 the Health Department of New York made a census, which revealed the fact that there were in the city 32,590 tenement houses, occupied by 237,972 families and 1,093,701 souls. Investigation in 1890 showed that in two years the tenement houses had increased 5,000, and the number of inhabitants to 1,260,000. During the three years preceding 1890, 220,976 persons in New York asked aid. A New York Supreme Judge is reported to have said:

"There is a large class—I was about to say a majority of the population of New York and Brooklyn, who just live, and to whom the rearing of two or more children means inevitably a boy for the penitentiary or a girl for the brothel."

CITIES WILL BECOME STORM-CENTERS OF DISCONTENT.

Thomas Jefferson foresaw the dangers that would come with crowded and congested cities. De Tocqueville wrote :

"I look upon the size of certain American cities, and especially upon the nature of their population, as a real menace which threatens the security of the democratic republic of the West."

Lord Macaulay, in his letter in 1857 to Hon. H. S. Randall, a letter which General Garfield said "startled him like an alarm bell in the night," predicted that in our great cities there would be congregated idle men who had not had a full breakfast, with no prospect for dinner.

"On one side a statesman preaching patience, respect for vested rights, strict observance of public faith ; on the other a demagogue, ranting about the tyranny of capitalists and usurers, and asking why anybody should be permitted to drink champagne and ride in a carriage, when thousands of honest folks are in want of necessities."

It is in the great congested cities where lurk the dangers to free government. Times of idleness and depression will come, and the scenes of Haymarket and Homestead will be repeated. From these lessons we may learn the wisdom of the New York committee in its efforts to stem the tide to the city and turn it back to the peaceful pursuits of intelligent agriculture.

I have faith to believe we are approaching the time when conditions in rural life will be changed; when intelligent husbandry will receive better returns; when there will be less of drudgery and more diversion and attraction. Through the application of science and greater intelligence, new attractions will be added; rural life will be dignified. Better roads, rural delivery of mail, daily papers, circulating libraries, telephones, will contribute to the comforts of and promote contentment with farm life. With higher intelligence, better social advantages, better homes with modern conveniences, will come contentment. When these conditions obtain, then will the tide turn from the turmoil of the city to the peace and quiet of country life.

FARMING A COMPLEX SCIENCE.

Farming is no longer mining—it is chemistry. Mind, not might, rules in the realm of successful agriculture to-day. There is no profession, vocation or calling that is attended with so many changing conditions as farming. How to mitigate the damaging influences of excess of drouth and moisture? How to successfully combat the ravages of insect pests, and the blight of fungus growth? How to conserve and restore the elements of plant food to the soil? The adaptation of crops to soil? Preparation of soil, planting, sowing, cultivation and harvesting of crops? How to utilize to best advantage everything produced? The amount and the commercial value of plant food utilized by the several crops grown? How to dispose of crops to secure the best returns in cash, and at the same time return to the soil the largest per cent. of plant food? The best crop rotation for the special farm? The crops that most rapidly exhaust the soil? Crops that gather nitrogen from the air, thereby adding to soil fertility? Methods of preparing and feeding crops? The



special object to be attained through breeding and feeding—speed, draft, beef, butter, pork, bacon or lard, mutton or wool, eggs or broilers? The law of supply and demand—of production and consumption? I have suggested fourteen questions or propositions, each of which is an important factor in securing success upon the farm, each involving both the principles of agricultural science and farm economics.

THE FUTURE OF PURDUE.

Reforms work slowly, however urgent the need. You can no more stop the march of progress than you can turn back the marker on the dial of time. Purdue, though young as a University, occupies a responsible position and has a wonderful mission to perform. The institutions that train for the industrial arts and sciences will henceforth be accorded greater prominence in this country. The words of the honorable Secretary of Agriculture, spoken to the young farmers of the South, apply with equal force to all.

In a recent speech at Savannah, Ga., Mr. Wilson said :

WILSON

"The young farmer of the South should study soil rather than dead languages; he should learn of the plant in preference to ancient history, and the feeding of animals before giving time to belles-lettres. The study of the movement of moisture in the soil will pay better than the study of oratory. Barnyard poultry offers greater rewards for its intelligent care than county offices."

Mulhall's statistics as to the relative value of agricultural and manufactured products are misleading. The products of the farm are created by the farmer. When he credits to the manufacturers the value of the output of the slaughterhouses, the packing establishments, the flour mills, the woolen and cotton factories, etc., he fails to deduct from the output the value of the millions of live animals from the farm, the hundreds of millions of bushels of grain, the fruits and vegetables canned, the fibre consumed in woolen and cotton mills, etc. Agriculture creates more wealth than all the other industries combined. The farmer is in closest touch with the nation's prosperity and life. Success in agriculture has always marked the rise of governments to prosperity and greatness. Its neglect has ushered in the decline and downfall of empires and kingdoms.

"From his brown furrows waiting empire springs,
 And genius plods unhonored 'til his hand
 Unbars the future, and unbinds his wings
 To flights he knows not of. His toils command
 All flags, all commerce, peace asserts his power;
 Grim war devours its vitals, when he fails,
 And stormy conquerors bide the auspicious hour
 When far and wide the farmer's skill prevails,
 Deem no profession, calling, art or trade
 Higher than his that is the first of all!
 Let science delve for him, let truth invade
 The realms of error, superstition fall
 Before the light that gladdens his domain!
 Let fortune reach her jeweled hand to him,
 Fame on her temple set his harvest wain
 And honor fill his beaker to the brim."

THE FARMER HAS BEEN THE PIONEER OF CIVILIZATION.

His family has endured the privation and performed the toil incident to farm life. Conditions have now changed. Henceforth the farmer must be more than a factor in hard toil. His great interest must be carried into the council of legislative assemblies. He must arise to the true dignity of his noble calling; he must look into economic questions with the eye of a discoverer. He should understand his interests and his rights,

and be able to present or defend them. The farmer must meet the new duties that confront him ; he must enter upon a new and more exalted plane. He is no longer confronted with pioneer conditions. From his isolation, he must go forth and join in the march of progress. His opportunities are enlarged. The more complex the problem, the more honor comes with its solution. More factors now than ever before enter into and determine the farmer's success. Hence, broader difference in the degree of success attained. To the farmer properly equipped for this noble calling, there are as grand possibilities as are offered for equal ability in any vocation or profession. To the young man who aspires to success, honor and distinction, agriculture offers as inviting a field as can be found.

Senator Justin S. Morrill, through his great wisdom, has laid the foundation for that training in agricultural pursuits needful to the highest success of the farmer and for the nation's weal. Purdue University stands at the threshold of higher agriculture in our State. Europe is educating her farmers for the new conditions. The

Czar of Russia sees in the diminishing crops of the fertile soil of his dominion, the urgent need of better methods, and will profit by the progress made in Europe. Senator Morrill foresaw the need and provided the beginning of the higher intelligence needed in this country's agricultural pursuits. You do well to honor his memory. May this day prove an inspiration that shall lead this Unlversity to a higher realization of the great purpose for which it was founded.

